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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/674,312	09/30/2003	Vivek Jain	JP920030093US1	9424

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EXAMINER

AHMED, AFFAF

ART UNIT	PAPER NUMBER
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3622

MAIL DATE	DELIVERY MODE
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03/26/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/674,312	JAIN ET AL.	
	Examiner	Art Unit	
	AFAF AHMED	3622	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 February 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 29-33,36,38,39,43-45,47,49-51 and 56 is/are pending in the application.
- 4a) Of the above claim(s) 34-35, 37, 40-42, 46, 48, 52-55 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 29-33,36,38,39,43-45,47,49-51 and 56 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Status of Claims

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17 (e), was filed in this application after final rejection. since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17 (e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 02/13/2009 has been entered.
2. Claims 29-33, 36, 38-39, 43-45, 47, 49, 50, 51 and 56 have been amended.
3. Claims 34-35, 37, 40-42, 46, 48, 52-55 have been canceled.
4. Claims 29-33, 36, 38-39, 43-45, 47, 49, 50, 51 and 56 are currently pending and have been examined.
5. Applicant has amended claim 43, therefore, claim Rejections - 35 USC § 112 is withdrawn.
6. Applicant has amended claims 29-33, 36, 38-39 and 56, therefore, claim Rejections - 35 USC § 101 is withdrawn.

Response to Applicant's Arguments

7. Applicant's arguments filed on 02/13/2009 have been fully considered but they are not persuasive and discussed in the next section.
8. Applicant argues that Abe fails to teach or suggest at least the present invention's feature of "inputting to a computer, by a merchant, said at least one specified merchant objective, said at least one specified merchant objective including said specified time period and said specified budget as constraints." The above limitation is addressed using Mittal art.
9. Applicant argues that no where does Mittal disclose, teach, or suggest "*providing a marketing strategy to address a merchant object based on a specified time period and a specified budget.*" In response to applicant's arguments, the recitation *providing a marketing strategy to address a merchant object based on a specified time period and a specified budget* has not been given patentable weight because the recitation occurs in the preamble.
10. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951).

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However, the combination of Abe and Mittal discloses the above limitation. Abe in at least paragraph 19 discloses providing customer data, including stimulus-response history data from a plurality of channels i.e. multiple channels, integrating the customer data and automatically generating specific actionable rule (cross-channel optimized marketing strategy) based on customer's data. Abe also in at least paragraph 129 discloses cost for direct mail promotion for soliciting donation. Abe in at least paragraph 152 discloses customer's transaction history data, such data includes marketing action and the cost associated with that marketing action.

Mittal in at least paragraph 15 discloses that any marketing research experiment has an associated budget, one or more target user segments and a time period for competition. The merchant desires (objective) to complete the experiment within the specified budget and time. Mittal also discloses in at least paragraph 23 a method to enable optimal deployment and utilization of the budget for the market research experiment (total revenue, campaign cost, channel cost) activity. Further more, Mittal in at least paragraph 57 and fig 6 with the associated text discloses details of the experiment parameter specification process. The experiment specification tool allows the merchant to describe the business objective for which the experiment is being conducted.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Abe's teaching of multiple channels marketing strategy with providing marketing strategy to address a merchant's objective, where the objective corresponds to a specified period and a specified time with the motivation of providing merchants with an optimized solution to effectively target customers and increase profitability.

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

13. Claims 29-33, 36, 38-39, 43-45, 47, 49, 50, 51 and 56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Abe et al, US Pub No. 2004/0015386 in view of Mittal et al, US Pub No: 2004/0117239 A1.

Claims 29, 43, 49 and 56:

Abe discloses:

- *generating, by said a computer, a plurality of possible marketing strategies, each of said plurality of possible marketing strategies comprising a set of initiatives, which are deployed together in a given sequence for said specified time period,*
- *wherein said initiatives include any of bundling of products, cross-sells, up-sells, coupons, discounts, promotions, advertisements, surveys, and customer feedback;*

See at least paragraphs 11-14, 179, 181 and 186.

- *determining, by said computer, an optimal marketing strategy from said plurality of possible marketing strategies, each of said plurality of possible marketing strategies corresponding to a policy comprising a sequence of various actions taken at different states encountered during said specified time period;*
- *wherein each of said different states corresponds to a set of variables including any of customer profile, purchase frequency, and monetary value of purchase, associated with a customer at a time in said specified time period;*

See at least paragraphs 66-67 and 152.

- *wherein said various actions include at least one randomized action;*

See at least paragraph 150.

- *wherein said various actions are constrained by a choice of a marketing channel (see at least paragraphs 163-164 and 184-189);*
- *wherein said various actions are deployed across said different states encountered during said specified time period to provide a plurality of policies (see at least paragraph 150);*
- *wherein each of said plurality of policies is evaluated in a context of a reinforcement learning algorithm, in which values of each of said plurality of policies corresponds to a vector of total expected rewards, said total expected rewards comprising a sum of rewards corresponding to a monetary value for each of said various actions deployed across each of said different states during said specified time period (see at least paragraphs 73-87);*

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- *wherein said determining of said optimal marketing strategy comprises determining an optimal policy for each state during said specified time period based on past data (see at least paragraph 11-14, 152-157 and 167) and wherein said determining of said optimal policy comprises:*
- *evaluating, in order, said each state for said specified time period across each of said plurality of policies, corresponding to said sum of rewards ; and identifying said optimal policy, associated with said optimal marketing strategy, by a maximal value representing a maximal total expected reward for said optimal policy ;*

See at least paragraphs 18, 73-87 and 95;

Abe does not specifically disclose:

- *outputting, by said computer to said merchant, the optimal marketing strategy;*

However, Abe also in at least paragraph 154 discloses a method for optimized targeted marketing strategy. The method includes preparing data, estimating a value function, and transforms rules. Such data may also include the marketing action, which may be taken by the seller (i.e retailer or merchant), the response that may be taken by that customer at or around that time, and the amount of profit or cost associated with that action.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Abe' system and method for sequential decision of developing marketing strategy with an outputting to a merchant the optimal marketing strategy with the motivation of providing the merchant with an opportunity to approve the campaign before implementing it.

Abe does not specifically disclose, but Mittal, however, discloses:

- *inputting, to a computer by a merchant, said at least one specified merchant objective, said at least one specified merchant objective including said specified time period and said specified budget as constraints (see at least paragraph 15);*

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine Abe's method and system for sequential decision making for CRM with Mittal's method and system for conducting marketing research with the motivation of providing the merchants with an optimal marketing strategy developed within a set budget and time period.

Claims 30, 44 and 50:

Abe/ Mittal disclose the limitations as shown above.

Abe further discloses:

- *selecting at least one initiative that enables an addressing of the specified objective.*
- *determining sequences in which selected initiatives can be deployed, if more than one initiative is selected.*
- *combining the selected initiatives in the determined sequences to obtain the plurality of marketing strategies.*

See at least paragraphs 70, 176 and 199;

Claims 31 and 32:

Abe/ Mittal disclose the limitations as shown above.

Abe further discloses:

- *varying parameters of initiatives to generate new initiatives corresponding to new states during said specified time period (see at least paragraphs 195-199);*
- *varying deployment time of initiatives (see at least paragraphs 201 and 202);*

Claims 33, 38, 45 and 51:

Abe/ Mittal disclose the limitations as shown above.

Abe further discloses:

- *determining an optimal policy for each state based on past data;*
- *identifying the state of a customer, the customer visiting a merchant or the customer being selected from a database of customer ;*
- *identifying the optimal policy for an identified customer state;*

See at least paragraphs 11-14, 152-157 and 167.

- *modeling customer's preferences for marketing channels, cost and effectiveness of different marketing channels, and the specified budget as effective constraints;*
- *determining an optimal feasible policy based on the identified optimal policy and effective constraints corresponding to marketing channels; and determining the optimal marketing strategy from the optimal feasible policy;*

See at least paragraphs 185.192-196 and fig 19 with the associated text;

Claim 36:

Abe/ Mittal disclose the limitations as shown above.

Abe further discloses:

- *computing transition probabilities from a given state to another state for the policy; and computing a value of expected immediate reward corresponds to a given state;*

computing a discount expected value of a resulting state; and computing a sum of expected immediate reward and the discounted expected value (see at least paragraphs 15-16, 73-87);

Claims 39 and 47:

Abe/ Mittal disclose the limitations as shown above.

Abe further discloses:

- *determining an optimal feasible policy based on constraints corresponding to marketing channels comprises mapping the optimal policy uniquely to a closest feasible optimal policy based on the constraints, if the constraints are not satisfied by the optimal policy (see at least paragraphs 179,183,185 and 203-204);*

Conclusion

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Affaf Ahmed whose telephone number is 571-270-1835. The examiner can normally be reached on Monday - Friday, 8:30 am-6:00 pm est, alt Fridays off.

15. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eric Stamber can be reached at 571-272-6724. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AA

/Yehdega Retta/
Primary Examiner, Art Unit 3622